



# First record of *Theraphosa apophysis* (Tinter, 1991) (Araneae, Mygalomorphae, Theraphosidae) in Brazil

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## Abstract

We present the first record for *Theraphosa apophysis* (Tinter, 1991) for Brazil. A male of *T. apophysis* was collected in São Gabriel da Cachoeira, Amazonas state, Brazil. This is the third species of *Theraphosa* in Brazil along with *T. blondi* (Latreille, 1804) and *T. stirmi* Rudloff & Weinmann, 2010.

## Key words

Amazonas; distribution; rainforest; spider; tarantula.

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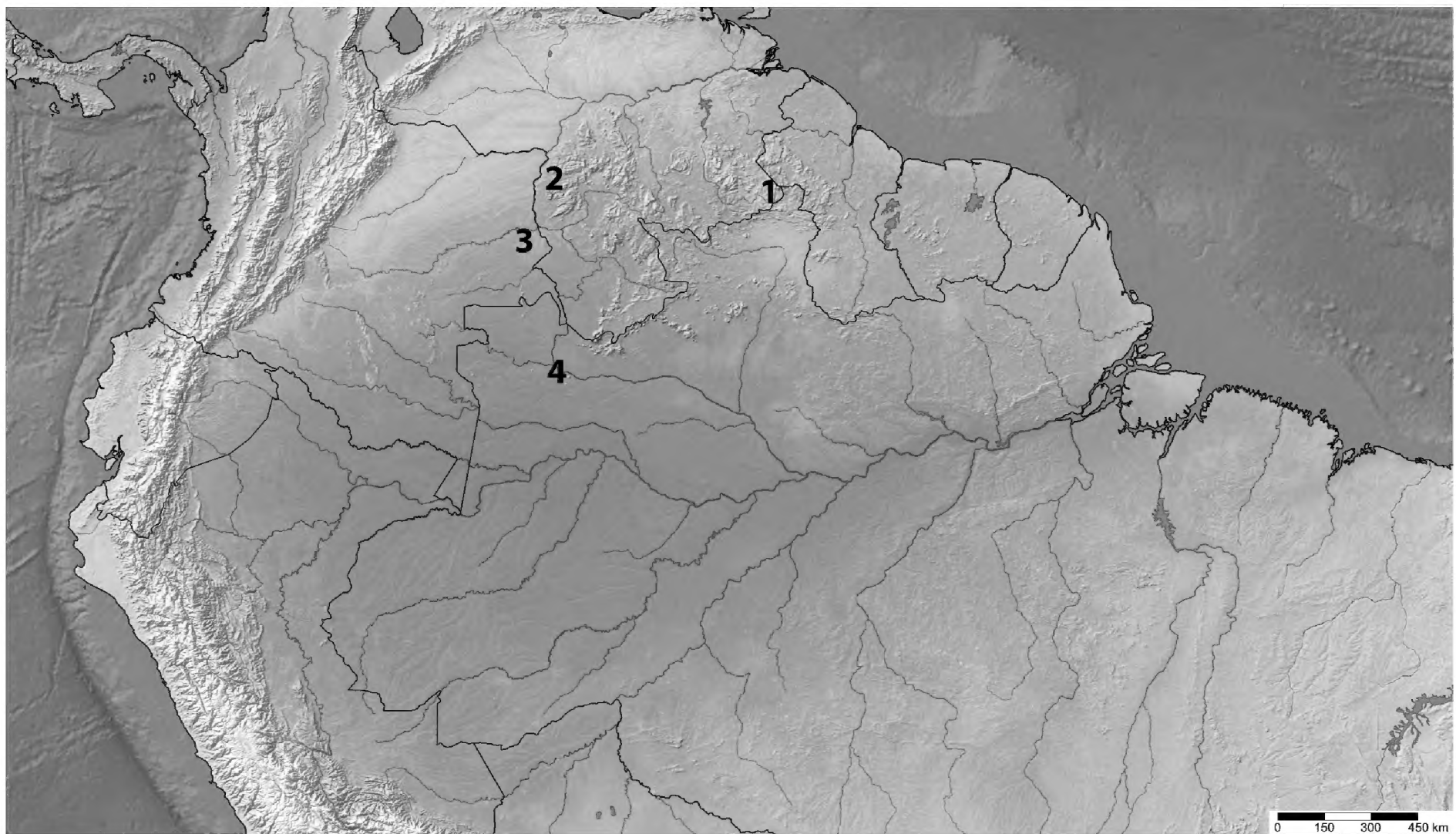
## Introduction

The Theraphosidae Thorell, 1869 are composed by 974 species and 144 genera (World Spider Catalog 2018) and can be found on all continents, except in Antarctica (Bertani 2001, West et al. 2008, Perafán et al. 2016). The genus *Theraphosa* Thorell, 1870, is represented by only 3 species: *Theraphosa apophysis* (Tinter, 1991), *Theraphosa blondi* (Latreille, 1804), and *Theraphosa stirmi* Rudloff & Weinmann, 2010. *Theraphosa* spiders are the largest in the world (Rudloff and Weinmann 2010) and are commonly known as “aranha-caranguejeira” in Portuguese and as Pinkfoot Goliath in English.

*Theraphosa* species are characterized by the lack of long hairs on patella and tibia, presence of stridulatory setae on prolateral coxae I and II, and presence of a single fused spermatheca in females (Bertani 2001, Rudloff and Weinmann 2010).

They can be found on holes in the ground (used as burrows) near tributary streams in primary forest (Luizão 2004). These spiders prey on a large variety of invertebrates in the forest soil and can even capture small vertebrates (Carvalho et al. 2016). However, the ecology of these spiders is still poorly known. To date, only *T. stirmi* and *T. blondi* have been reported to Brazil (Schmidt 1993, Carvalho et al. 2017), and despite its occurrence in neighboring countries such as Colombia and Venezuela, *T. apophysis* has not been recorded in Brazil.

Herein, we record for the first time *T. apophysis* (Tinter 1991) for São Gabriel da Cachoeira, state of Amazonas, Brazil. The collection area is near to the northern border of Brazil. It is within dense tropical rain forest. The climate is hot and humid climate, with mean annual temperature of 26.4 °C and the rain precipitation 2,909 mm.



**Figure 1.** Distribution of *Theraphosa apophysis* (Tinter 1991): (1) Mount Roraima, Venezuela (Tinter 1991); (2) Puerto Ayacucho, Venezuela (Rudloff and Weinmann 2010); (3) Colombia (Jimenez 2004); (4) São Gabriel da Cachoeira, Brazil, new record.

## Methods

The specimen is deposited in the Invertebrate Zoology Collection at Instituto Nacional de Pesquisas da Amazônia (INPA). Specimen identification done according to Tinter (1991) and Bertani (2001). All photographs were taken under a Leica M205A stereomicroscope and using the Leica application suite version 4.10.0. The images were edited in Adobe Photoshop CC (2017) and the distribution map (Fig. 1) was created using SimpleMappr (Shorthouse 2010).

## Results

**Material examined.** Brazil: Amazonas: São Gabriel da Cachoeira (00°07'48" N, 067°05'20" W), 15.VII.1994, J. Carlos and F.J.C Prestes *leg.* (1♂ INPA-ARA 008802).

**Updated distribution.** Venezuela (Puerto Ayacucho, Rudloff and Weinmann 2010; Mount Roraima, Tinter 1991), Colombia (Jimenez 2004), and Brazil (São Gabriel da Cachoeira municipality, state of Amazonas, new record) (Fig. 1).

**Identification.** Males of *T. apophysis* can be easily identified by having a tibial apophysis on leg I, which is lacking in *T. blondi* and *T. stirmi* (Fig. 2D, E). Females of *T. apophysis* differ from those of *T. blondi* by presence of a stridulatory organ in coxa I and II (females of *T. blondi* have only one coxa I) and from *T. stirmi* by having patella with long curved hairs (Tinter, 1991, Bertani, 2001, Rudloff and Weinmann 2010).

**Description.** Body length 46 mm; carapace length 26 mm, width 27 mm; abdomen length 20, width 16 mm.

Leg lengths: I, 88 mm; II, 80 mm; III, 77 mm; IV, 95 mm. Pedipalp length 41 mm (Fig. 2A–E).

## Discussion

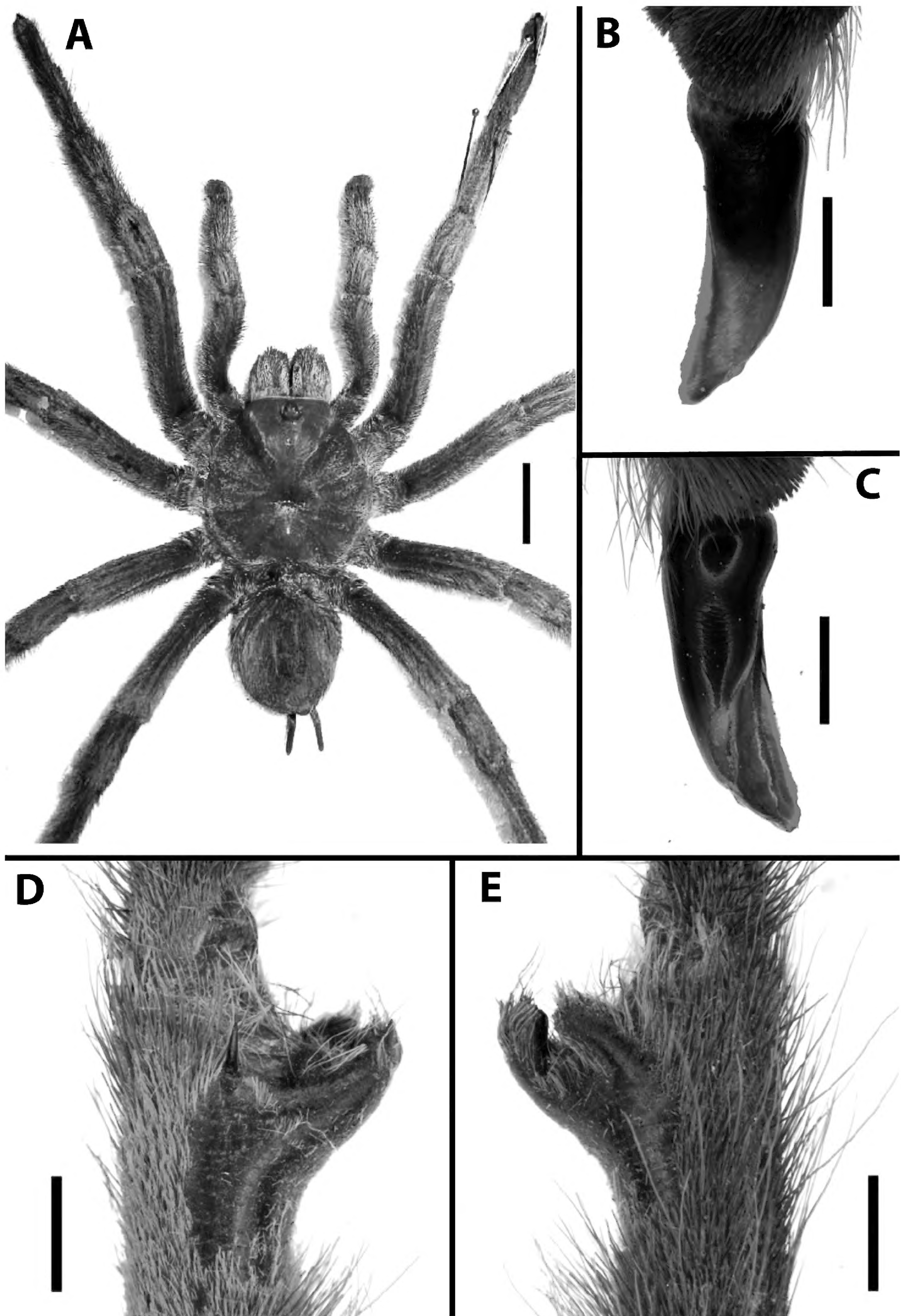
*Theraphosa apophysis*, previously known from Venezuela (type locality) and Colombia (Jimenez 2004), is now recorded for Amazon region of Brazil. Therefore, our work confirms the presence of all 3 species of *Theraphosa* in the Amazon biome, with current distribution in 6 countries: *T. apophysis* (Venezuela, Colombia, and Brazil); *T. blondi* (Brazil, Suriname, and French Guiana), and *T. stirmi* (Guyana and Brazil) (Schmidt 1993, Rudloff and Weinmann 2010, Carvalho et al. 2017, World Spider Catalog 2018). The new record of *T. apophysis* is important not only because it is the first time the species is collected in Brazil, but because this is the first reliable record for this species in the country, as most of the known specimens are from the pet trade. The only confirmed record with males and females of *T. apophysis* seems to be from Puerto Ayacucho, Venezuela (Rudloff and Weimann 2010).

The distribution *T. apophysis* seems to be restricted to the central Amazon. However, new studies are needed to confirm the distribution range in Amazon region. In addition, new faunistic surveys in remote areas in the Amazon may provide new records of *Theraphosa* species in Brazil.

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**Figure 2.** *Theraphosa apophysis* (Tinter 1991), male, body. **A.** Habitus. **B.** Right palpal bulb retrolateral view. **C.** Bulb prolateral view. **D.** Leg I, tibial apophysis, prolateral view. **E.** Leg I, tibial apophysis, retrolateral view. Scale bars: A = 10 mm; B, C = 3mm; D, E = 4 mm.

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## Authors' Contributions

MQA photographed the specimen; MQA identified the species and MQA, LS and JM wrote the manuscript.

## References

- Bertani R (2001) Revision, cladistic analysis, and zoogeography of *Vitalius*, *Nhandu* and *Phoshapalopus*; with notes on other theraphosine genera (Araneae, Theraphosidae). *Arquivos de Zoologia* 36: 265–356.
- Bonaldo AB, Brescovit AD, Höfer H, Gasnier TR, Lise AA (2009). A Araneofauna (Arachnida, Araneae) da Reserva Florestal Ducke, Manaus, Amazonas, Brasil. In: A fauna de Artrópodes da Reserva Florestal Ducke, Editora INPA, Manaus, 201–222.
- Carvalho WD, Norris D, Michalski F (2016). Opportunistic predation of a common Scale-backed Antbird (*Willisornis poecilinotus*) by Goliath Bird-eating Spider (*Theraphosa blondi*) in the eastern Brazilian Amazon. *Studies on Neotropical Fauna and Environment* 51 (3): 239–241. <https://doi.org/10.1080/01650521.2016.1237802>
- Carvalho LS, Martins PH, Schneider MC, Cabra-Garcia JJ (2017) New records of spiders (Arachnida, Araneae) from the state of Roraima, northern Brazil. *Check List* 13 (1): 20–40. <https://doi.org/10.15560/13.1.2040>
- Höfer H, Brescovit AD (2001) Species and guild structure of a Neotropical spider assemblage (Araneae) from Reserva Ducke, Amazonas, Brazil. *Andrias* 15: 99–119.
- Jimenez, JJ (2004) Contribucion al reconocimiento taxonômico y distribución geográfica de las tarántulas de la familia Theraphosidae (Araneae, Mygalomorphae) em Colombia. Thesis, Universidad Nacional, Bogotá, Colombia, 88 pp.
- Latreille PA (1804). Histoire naturelle générale et particulière des crustacés et des insectes. Tome septième. F. Dufart, Paris, 413 pp. <https://doi.org/10.5962/bhl.title.15764>
- Luizão RCC (2004) Biologia da Aranha Caranguejeira *Theraphosa blondi* na Reserva Florestal Ducke. In: Cintra R (Ed.) Historia Natural, Ecologia e Conservação de Algumas Espécies de Plantas e Animais da Amazônia. EDUA/INPA/FAPEAM, Manaus, 107–110.
- Perafán C, Galvis W, Gutiérrez M, Pérez-Miles F (2016) *Kankuamo*, a new theraphosid genus from Colombia (Araneae, Mygalomorphae), with a new type of urticating setae and divergente male genitalia. *ZooKeys* 601: 89–109. <https://doi.org/10.3897/zookeys.601.7704>
- Rudloff JP, Weinmann D (2010) A new giant tarantula from Guyana. *Arthropoda Scientia* 1: 21–40.
- Schmidt G (1993) Vogelspinnen: Vorkommen, Lebensweise, Haltung und Zucht, mit Bestimmungsschlüsseln für alle Gattungen, Vierte Auflage. Landbuch, Hannover, 151 pp.
- Shorthouse DP (2010) SimpleMapper, an online tool to produce publication-quality point maps. <http://www.simplemappr.net>.
- World Spider Catalog (2018) The World Spider Catalog, v. 19.0. American Museum of Natural History, New York. <http://research.amnh.org/entomology/spiders/catalog/index.html>. Accessed on: 2018-7-10.
- Thorell T (1869) On European spiders. Part I. Review of the European genera of spiders, preceded by some observations on zoological nomenclature. *Nova Acta Regiae Societatis Scientiarum Upsalien-sis* 7 (3): 1–108.
- Tinter A (1991) Eine neue Vogelspinne aus Venezuela *Pseudotheraphosa apophysis* n. gen. n. sp. (Araneae: Theraphosidae: Theraphosinae). *Arachnologischer Anzeiger* 16: 6–10.
- West RC, Marshall SD, Fukushina CS, Bertani R (2008) Review and cladistic analysis of the Neotropical tarantula genus *Ephebopus* Simon 1892 (Araneae: Theraphosidae) with notes on the Aviculariinae. *Zootaxa* 1849: 35–58.